

Application No. 10/564,778
Amdt. Dated: August 17, 2006

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Amendments to the Claims:

1. (Currently amended) A method ~~mist eliminator device~~ for removal of moisture from a gas stream, which comprises:

passing said gas stream to a mist eliminator device comprising:

a chamber an enclosure having an upper inlet for said gas ~~a flow of the~~ gas stream, a lower outlet for collected liquid and a second outlet for a product gas stream,

a hood located generally axially in said chamber having walls sloping downwardly from an upper crown to a lower extremity defining an exterior and a space beneath the hood,

at least one moisture collection channel provided on the exterior surface of said walls positioned to collect liquid on said walls and guide the collected liquid to at least one flow channel positioned to direct collected liquid to below the hood,

at least one moisture collection channel provided on an interior surface of the walls positioned to collect liquid entrained in the gas stream and passing from the exterior of the hood into the space beneath the hood, and

an outlet duct communicating with the space beneath the hood and joined to the second outlet for guiding gas entering the space beneath the hood to the second outlet.

passing said gas stream downwardly from said inlet into engagement with the exterior surface of the walls,

collecting moisture from the exterior surface of the walls in said at least one moisture collection channel provided on the exterior surface of the hood and guiding said collected liquid to said at least one flow channel and to below the hood,

removing collected liquid guided to below the hood from said lower outlet,

passing said gas stream into the space below the hood and collecting entrained moisture from said gas stream by said at least one moisture collection channel provided on the interior surface of the hood, and

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passing said gas stream to said second outlet through said outlet duct as said product gas stream.

2. (Currently amended) The method ~~mist elimination device~~ of claim 1, wherein said chamber and said hood have a rectangular or square cross-sectional shape.

3. (Currently amended) The method ~~mist elimination device~~ of claim 1, wherein said chamber and said hood have a round or oval cross-sectional shape.

4. (Currently Amended) The method ~~mist elimination device~~ of claim 1, further comprising an additional moisture collection channel positioned on an interior surface of the outlet duct and collecting positioned to collect liquid running along the interior surface of the outlet duct.

5. (Currently amended) A method ~~mist elimination precipitator assembly~~ for the treatment of a gas stream containing particulates and saturated with moisture, comprising:

passing said gas stream to a mist elimination precipitator assembly
comprising:

an upper inlet and a lower outlet ,
electrostatic precipitator elements ~~element~~ extending from the upper inlet to the lower outlet for removing contaminants ~~contaminator~~ from the gas ~~a gas~~ stream passing from the upper inlet to the lower outlet,

~~a gas stream which has been saturated with moisture passing through the electrostatic precipitator elements,~~

means for flushing and/or irrigating the electrostatic ~~electrostatic~~ precipitator elements ~~internal method elements~~, and

a mist elimination device in unobstructed fluid flow communication with the lower outlet for removing entrained droplets from the gas stream by the method, ~~said mist elimination device being as claimed in claim 1; and~~

passing said gas stream through the electrostatic precipitator elements from said inlet to said outlet.